

Water Quality Assessment of Satara City and Surrounding Villages of Maharashtra using Geospatial Techniques

Subhash V. Karande*

Abstract : *This paper presents the results of a spatial analysis of the surface and subsurface water quality of Satara city and its surrounding villages in Maharashtra for human drinking purposes. Water samples collected during the pre- monsoon and post-monsoon seasons from fifteen sites that included open wells, bore wells and rivers, were analyzed through an agency for eighteen physical, chemical and biological parameters. The obtained values were mapped using a GIS platform and then subjected to spatial analysis of water quality index using standard procedures. It is found that 80 per cent samples of the pre-monsoon period and 93 per cent of the post-monsoon period are unfit for human use. Overall, the water from rivers and open wells is unsafe, while that from bore wells is safe.*

Key Words: *open well, bore well, river water, pre- and post-monsoon, Satara, GIS, water quality index.*

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Ethical Issues Related to Relief and Rehabilitation of Bank Erosion and Flood Victims in Maldah District in West Bengal, India

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Abstract : *Natural disasters affect the vulnerable socio-economic strata more forcefully than do the economic disasters. The construction of Farakka Barrage in 1975 over the river Ganga has adversely affected the natural flow and the course of the river as well. The shifting of river bank has become a routine phenomenon and consequently several parts of Maldah district are exposed to large scale disaster in terms of bank failure and flooding each year. This has caused tremendous uncertainty to human settlement, forcing the affected people to migrate for resettlement and in search of livelihood. The affected people are the victims of severe financial loss, deprivation, death and psychological distress due to uprooting and disassociation with their land and habitation. The entire population belonging to lower class and weaker section, even in post-disaster period, remained prone to the disaster as they are left with no choice but to live in low lands and on the flood plains. In order to help the people to cope up with this distressed situation a few organizations came forward to undertake charity work. Humanitarian works carried out by such organizations are commendable but there are also instances when proper ethics is not maintained even by the relief workers and others while reaching out to the victims. The present study examines the ethical issues involved in dealing with erosion and flood victims as well as in the context of disaster management, with a focus on post-disaster response and recovery. It is observed that after every human migration owing to bank erosion, displaced people face economic insecurity due to loss of agricultural land and become unemployed. The victim also suffer from social insecurity due to deprivation of civic rights, health insecurity due basic infrastructure, etc. along with loss of identity. All such insecurities caused by forced displacement leads to deprivation, destitute, fragility and increased vulnerability of the families. The findings of this study help policy makers to improve early intervention and screening databases and may also have significant implications in the control and prevention of flood and erosion related problems in the Maldah district.*

Key Words: *bank erosion, ethical principles, human migration, land dispute, post-disaster recovery and rehabilitation*

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Regional Disparities in The Level of Social Well-Being in Terms of Demographic Characteristics of Dakshin Dinajpur District: An Analysis Using Multidimensional Techniques

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Abstract : *From the beginning of the civilization to the present day context, every society or a country passes through different developmental process or stages, first phase of development indicates economic growth and in its later phase it is the social well-being that becomes key concern. The measurement of the alignment of social well-being and the assessment of inequality between various classes, communities or administrative units is one of the principal research anxieties for social scientists today. In the present study, we tried to find out level of social well-being in terms of demographic characteristics applying D.M. Smith and Paul Knox's models of social well-being index in backward DakshinDinajpur district, West Bengal. The paper is basically based on secondary data source, collected from Census of India report; District Statistical Handbook; different research articles published in journals, magazines, Newspapers, etc. Principal Component Analysis (PCA) was used to compute the component score of the variables and Pearson correlation coefficient was performed to examine the relationships among various indicators. The results of the study show that the level of social well-being in terms of demographic characteristics are comparatively lower in the north western part of the district than the south eastern part except Hili block. Based on the findings, the paper lays out some policy directions to improve the level of social well-being in the lagging areas.*

Key Words: *regional disparity; multi-dimensional phenomenon; demographic landmark; social well-being; developmental strategies.*

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Planning and Management of Fire Hazards in the Kolkata Municipal Corporation Area of West Bengal, India

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Abstract : *Fire is one of the most important hazards often causing massive damage to life and properties but it can be managed if preventive measures can be taken to avoid large scale devastations. Fire hazards are usually very common in urban areas, particularly in unplanned and congested areas without having proper fire safety measures. In Kolkata, the different land uses form a complex mosaic in the landscape and subsequently create varying degrees of fire hazards in the region, especially in the high density areas. The past five years have witnessed a substantial increase in the number of fires, and the areas affected by fires are causing loss of crores of rupees due to damage of properties, and even the loss of lives in some cases. In the Kolkata Municipal Corporation (KMC) of West Bengal, the density of settlements has been increasing mainly because of the number of houses and infrastructural facilities located within and adjacent areas of the KMC, and thus this area under the present study is becoming prone to urban fires. The present work is an attempt to explore the possibilities of planning for management of fire hazards in the KMC area of West Bengal, India. Multivariate analysis of the factors instrumental for bringing about fire hazard and related accidents and casualties has been done in the study. The study involves investigation of the nature of fire hazards in the KMC area, including their geographical and seasonal distributions, frequencies and magnitudes, damages and possible measures for control. It also includes a critical analysis of the existing fire prevention mechanisms by the various agencies operating in the KMC area. The major focus is on the scope for use of geo-spatial technologies in mitigation of fire hazards in the area. The paper also attempts to address the specific issues of Fire Management System (FMS) through application of Global Positioning System (GPS), Remote Sensing (RS) and Geographical Information System (GIS) towards preparation of fire management plans.*

Key Words: *fire risk, fire system management (FSM), GIS, multivariate analysis, remote sensing*

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Ecological Studies and Global Economics

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Abstract : *The main objective of this study is to link economics and ecology for sustainability. The study also explores the impact of ecology for development and the impact of economic development for ecological crisis. The study is conducted with the help of secondary data sources using various articles, journals, magazines, research paper, books reviews, newspaper etc. The main findings of the study state that an ecological study for global economic development is significant because of their cause-effect relation. The relation between the two is such that the magnitude and the degree of their linkage is not clear cut.*

Key Words: *ecological study; economics; development; linkage; environment; global.*

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Impact of Road Construction on Land Use and Land Cover in Umsning Town, Meghalaya

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Abstract : *A large number of natural lands have been converted to industries, commercial buildings, educational institutions, built-up areas, agricultural lands, etc., due to the widening of national highways and construction of new roads in India by the National highways authority of India (NHAI). Because of this widening and road construction project, land use patterns have also been changed leading to land cover change too. The present paper maps the changes in land use and land cover in a micro-level area. In this study, the dynamics of changes in land use and land cover have been studied by using a GIS-based technique. Landsat imageries captured before bypass construction (2011) and after bypass construction (2018) have been compared. The study indicates that the bypass road construction has led to the drastic changes in land use and land cover at Umsning. It was also found that new land-use classes have emerged in the study area besides changes in the existing land use classes. Socio-economic activities have also been affected drastically, supported by the people's responses.*

Key Words: *Road construction, land-use, land-cover, impact, evaluation, Umsning,*

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